

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number  
**WO 2005/035152 A1**

(51) International Patent Classification<sup>7</sup>: **B09C 1/08**

(21) International Application Number:  
PCT/US2004/033109

(22) International Filing Date: 7 October 2004 (07.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/509,697 7 October 2003 (07.10.2003) US  
60/509,698 7 October 2003 (07.10.2003) US

(71) Applicants and

(72) Inventors: SPENCER, H., Willard, III [CA/US]; 715 W. 21st Street, Vancouver, WA 98660 (US). MOSKAL, Eugene, A. [CA/CA]; 166 Summerhill Place, Kelowna, British Columbia V1V 1T6 (CA).

(74) Agent: LOGAN, Anthony, D.; Ellis & Venable PC, 101 North First Avenue, Suite 1875, Phoenix, AZ 85003 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

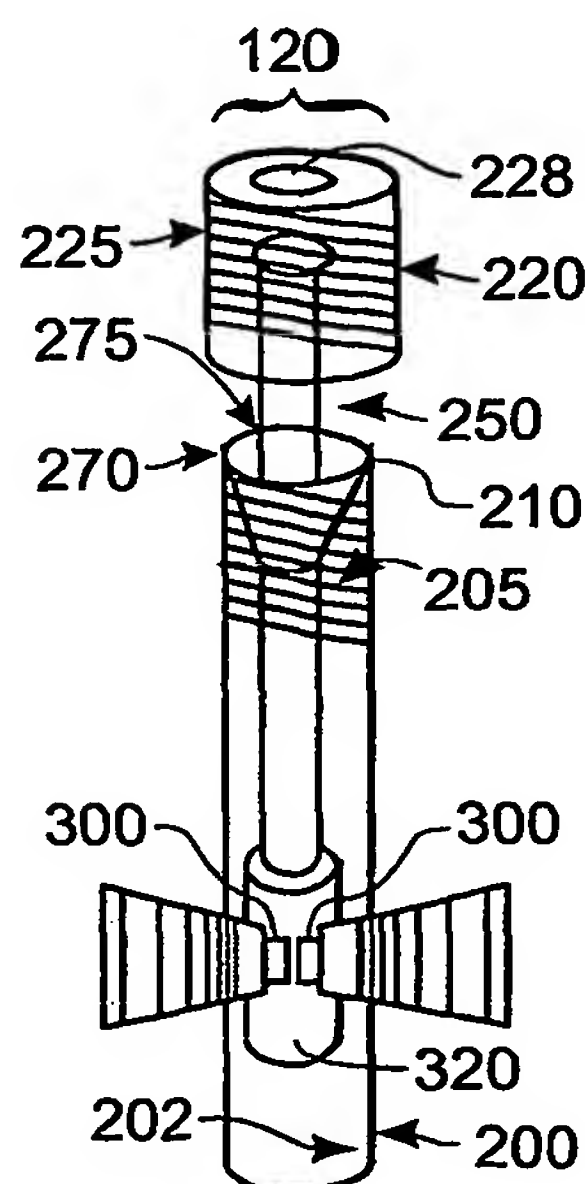
- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only

**Published:**

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BATCH CONTAMINATED RESOURCE TREATMENT METHOD AND APPARATUS



(57) Abstract: This invention provides methods and apparatus for treating a batch contaminated resource using an ultrasonic pressure wave. A method of treating a batch contaminated resource is described comprising the steps of introducing at least one oxidizing agent into the batch contaminated resource; and energizing the batch contaminated resource and the at least one oxidizing agent with an ultrasonic pressure wave; and an apparatus is described for treating a batch contaminated resource using at least one transducer (300) in a transducer housing (320) to produce ultrasonic pressure waves in the batch contaminated resource wherein the transducer housing is inside a container (200) and an energy source for energizing the at least one transducer is coupled to the at least one transducer (300).

WO 2005/035152 A1